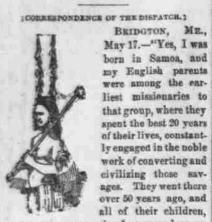
ism to Christianity

DURING THE PAST FIFTY YEARS.

Intelligence, Chivalry and Integrity of the Samoaus,

CORRESPONDENCE OF THE DISPATCH.)



Native Chief of the six of us, were born on

those islands. My mother was the first white woman ever seen in Samoa."

The speaker was the Rev. Charles Harbutt, the present pastor of the First Congregational Church of Bridgton, in Western Maine, whom I found in his study at the Bridgion House, surrounded not only with books and pictures, but also with Samoan curiosities of various kinds, mostly relies of heathen days. These comprised weapons, utensils, articles of dress, rude ornaments, etc., together with an insignia of royalty in the manner of a sear-let cord about three feet long, made of minute feathers, ingeniously fastened to a piece of string, to make which must have involved the killing of thousands of a certain kind of bird in whose entire plumage only two or three red feathers are found. I had come to get from the good minister some glimpses of life on those far-away islands, now the focus of the world's gaze, and he cheerfully res-

· A WONDERFUL CHANGE. "I see you have your eye on that iron wood war club, and that egg-shaped piece of polished sandstone labeled 'Idol,' " con-tinued Mr. Harbutt. "No doubt you are thinking of what a wonderful transition the last half century has wrought in those islands. Yes? Well, I should say it has! Why, when my parents and the other mem-bers of that brave, God-serving band began their missionary work on those islands, under the auspices of the London Mission-ary Society, the natives were idolatrous savages. My father, Rev. William Harbutt, in the course of his 20 years' sojourn, was several times in danger of his life. The natives were much the same as those of the other groups of the Polynesian Islands, albeit they are as a race superior to the sverage South Sea islander. They claim never to have been islander. They claim never to have been cannibals, yet most likely they were. At any rate they were true savages, lightly valuing human life, socially bestial and given to all sorts of heathen abominations. Why, their very idolntry was so loose and crude that while in the abstract they believed in a supreme being, together with lesser gods, it didn't matter what object or shape they worshiped. They would pick "I up a rough stone or piece of wood whenever their religious fancy seized them and knee. down and worship it. Now look at them. Well clothed, well educated, polite, morally correct and worshipers of the true God. Throughout the islands are flourishing schools and churches, the teachers and pas-tors of which are for the most part natives." e all the Samoans Christians?" I

A CHRISTIAN COUNTRY.

"In the general sense of the term, yes. I doubt if there are a dozen heathens out of their entire population. Of this population nearly 3,000 out of the 35,000 are Catholics; all the rest are Protestants; while of the total number of people from 5,000 to 6,000 are regular members of Christian churches. And it is worthy of note that these churches are self-supporting, the members not only paying all the church expenses, but also paying an the charts expenses, or contributing \$6,000 annually for foreign missions in other islands. Now, I don't propose to iterate what by this time is so generally known concerning the olimate, productions, topography, etc., of the Samoan Islands, except to corroborate, from personal knowledge, what the newspapers say as to the natural intelligence, chivalry, kind-heartedness and integrity of the Samoans, the loveliness of the climate and scenery, and the fertility of the soil, from which is need so great a variety of trees, fruits and vegetables, such as banyans, palms, pandana, bamboo, anauli, rattan, wild orange, lemon, lime, plantain, taro, muiberry, tacia, pineapple, viapple, guava, mango, citron, wild sugar cane, etc. There is also plenty of poultry and pigeous, and horses, cattle and swine have been introduced."

The Samoans have thus far succeeded in preserving their independence, and it is the judgment of Rev. Mr. Harbutt that their



Lone Bay and Village, Tutvila.

virtually depend on their self-government wholly untrammeled by foreign dictation. They have had on the whole a peacetul However, a bitter war prevailed from 1837 to 1847 in all the islands except Tutuilla and Neanua, thereby seriously reeverybody knows, there has been a renewa of internecine troubles, pending which the Germans deposed Malietoa, and are now trying to overthrow the present king, good, pious, versatile, brilliant Matanfa, and put the rebel, Tamasese, upon the throne.

A CASE FOR INTERPRESCR. "Our Government has done well in awakening from its lethargy and showing its teeth," said Mr. Harbutt. "I know what I am talking about when I say that Germany meant mischief, and would even now do mischief if we would only stand meekly still and let her have her own way. And inasmuch as my parents were English and a portion of my life was passed in dear old England, I would be too glad to see the British Government join heart and hand with the United States in the Samoan mat-ter, especially as it was by her people that the great work of civilizing, Christianizing and enlightening those savages was done. Germany's interests are purely mercenary. With her it is simply a matter of money. Of the nearly \$500,000 amount of traffic done by the 35,000 native Samoans, in the various stores, the Germans have nearly the whole. Look at the three great German mercantile firms of Deutsche Handels, Plantagen Gelischaft and H. M. Ruge & Co., all at Apia, where the late troubles and terrible marine disaster have occurred. There are also lesser German stores, and some English and American ones, but the three I have "Their chief article of shipment is copra, the sun-dried coccanut, from which is obtained a valuable oil. They also receive from their states octon, coffee and many

PICTURES OF SAMOA.

other articles of tropical growth, both wild and cultivated. For all of these the Samo-ans receive European goods—agricultural and mechanical implements, arms and ammunition, dress fabries, medicines, fancy articles; yes, and even booty of treasures of art and vertu. For, as I have said, the natives are a fine race, intelligent, manly, chivalrous, industrious, quick and eager to learn, make good mechanics and husbaud-men; while is morality and religion they ompare favorably with more powerful and pretentious people. Both sexes wear a loose, thin but modest dress, peculiar to the country. The houses of the islanders are of breadfruit trees, one-story and thatched with wild sugar-cane or ponderain leaves.

STUDENT LIFE IN THE MALUA MISSION THE MISSION SEMINARY. "One of the most suteresting objects in the group," continued Mr. Harbutt, "is the college, or, more strictly speaking, the Samoan Mission Seminary. It is situated at Malua, and was founded in 1844 by Rev. BRIDGTON, ME., May 17 .- "Yes, I was Dr. George Turner and Rev. Charles Hardie, under the auspices of the London Missionary Society. Starting with a class my English parents liest missionaries to of 25, it has under instruction, or rather had up to May, 1882, an aggregate of 832 men, that group, where they spent the best 20 years of their lives, constantly engaged in the noble work of converting and civilizing those savages. They went there over 50 years ago, and all of their ending their collections of the students the great majority have been and still are Samoan, although there are representatives of 19 other islands in the Pacific. Of those graduated from this institution between 200 and 300 are to-day ordained pastors in active service, and supported by the villages where they labor. The uniquely hoard and lodge them.



ary Society. For more than 25 years al-most all the local expenses for stationery, medicine, tools, prizes, etc., have been met by the Congregational Sabbath schools at Hobarttown, Tasmania. On its roll of stu-dents to-day are about 150, of whom about four-sevenths are men, two-sevenths women,

and the rest youths.

"The mission is prettily situated, with a beach frontage of half a mile, with stone embankment, the rest of its boundary being a 20-feet-wide road, lined on either side with 2,000 concerns trees. On the grounds are nearly 3,000 coccenns trees in fruit, each student having the care and use of upward of 20. There are also some 2,000 breadfruit trees, all bearing, and these too are divided among the young men, which, with their banana, yam and tare plantations, give them an abundant supply of food all the year. Its 300 acres are stocked with a large supply of food for students for generations to come. There are 26 stone houses, including class room and tutors' residences, and 25 other cottages. This property is worth to the London Missionary Society £10,000, and is annually increasing in

STUDENT LIFE. Miss Gordon Cummings, who, cruising in a French man-of-war, visited this institution, gives the following account of student

lovely tropical dawn the college bell rings to mark the hour for household prayer. There is probably not a house in Samoa where the family does not assemble daily for morning and evening prayer. Then all the students go out, either to work in the garden of to fish in the lagoon. At 8 the bell rings again to warn them that it is time to bathe and breakfast, to be ready for their class at 9. Classes and lectures continue till 4, when they are again free to go fishing, gardening, carpentering, or whatever they prefer. At sunset each family meets for evening prayer; then the men study by themselves till 9:30, when the curtew bell warns them to put out their

lights."
The first mission work done in these islands was in 1830 by Messrs. Williams and Barff, from England. In 1832 Mr. Williams again visited the group and reinforced the mission by the addition of several teachers, who were located on different parts of the industry. of the islands. This was followed by visits and increased forces at intervals of about one year. The work continued to flourish. A church was formed at Sapapalii in 1837; soon after churches were also formed in Manono, Nepolu and Tutuilo. By-andby a printing press was introduced and the Bible translated and printed in the native tongue. Later on, from the same press were issued various religious works—doctrinal, biographical and historical; also elementary works on arithmetic, geography and as-tronomy." Charles O. STICKNEY.

A NOVEL SCREME.

A New York Company Cleans Windows on Monthly Contracts.

A company has recently been started in New York whose sole purpose is to keep windows clean, and persons who are observant may have noticed neatly-uniformed men carrying ladders and buckets which are painted in alternate stripes of red and entering buildings and departing from them. in a business-like way, and always seeming to know just where to go next.

The company at present employs about a these men, and one meets them everywhere. They are paid a commission

on the number of windows they clean, but in order to prevent them from slighting their work so as to get over the ground more readily they are subject to fines whenever the customers of the corporation complain that their windows are not properly cleaned. The company solicits patronage by means of canvassers, and charges a small amount each month for cleaning one window once a week. The price is increased per window, and is said to return a very considerable in

A CURE FOR HAY FEVER. Applying Rubber Bags Full of Ice to the

Spine. Dr. B. O. Kinnear, a Boston specialist in the treatment of hay fever, during a talk in New York, Tuesday, before the Academy of Anthropology, referred to hay fever as a nervous disease. His theory is that it proceeds from excessive circulation at the centers of the nerves affected, thus affecting the glands. "An excess of nerve force in any part of the body contracts the blood vessels in that part. Any application that can reduce this force tends to restore the circulation to a normal condition. Another kind of hay fever dilates the blood vessels, especially those within the skull, bringing on a feverish skin." Treatment with ice is Dr. Kinnear's cure. It is applied in rubber bags to the spine, but whether at the neck, behind the abdomen, or all along the spine depends upon whether the patient suffers from contractile or expansile hay tever. Dr. Kinnear says he worked out his hypothesis in practice with results entirely satisfactory, curing hay fever, catarrh, asthma, sneezing spasms and kindred troubles with unfalling

St. Louis Globe Democrat.; "I really cannot recall one woman of my extensive aequaintance," said a St. Lonis lady, "who will not tell little stories-fibs —and such absurd ones, too, that she doesn't expect them to be believed; in fact, often tells them in the face of knowledge that her auditors know they are as nude of truth as a baid head is of hair,"

CAREER OF A SINGER Emma Nevada Tells the Story of Her Operatic Successes

HER KARLY STRUGGLES FOR FAME. The Strict Regime That Must be Fellowed by a Prima Donna.

ADVICE TO YOUNG AMERICAN GIRLS

PARIS, May 1 .- How or when I first thought of devoting myself to an operatio career I can hardly remember. From my earliest years music was my passion, no less than my pastime, as a child; and it was my serious work for the rest of my life up to the present time.

My first appearance on any stage was made at Grass Valley, Cal., at a concert given for the benefit of a local charity. Wrapped in the American flag and standing on a table I sang the "Star Spangled Banner" to the apparent satisfaction of the audience. I was then just 3 years old. Two years later I sang at a concert given in Virginia City, before an audience largely composed of successful miners. They showered on me not only flowers and bonbons, but also \$20 gold pieces, then a novelty, in such numbers that the skirt of my little frock, which I gathered up to hold my treasures, was speedily filled. Then, as new offerings were thrown to me, I was sadly puzzled what to do with them. But a bright des struck me. I pulled off my shoes and filled them in turn.

I was 8 years old when I assumed my first dramatic character. It was that of the Em-press Josephine in a private performance of juyenile theatricals. My education was by no means relin-

quished in favor of acting and singing. I was a pupil at the Mills Seminary, and graduated there three years after the death of my mother. I took lessons in both vocal and instrumental music during my stay at that institution.

HER FIRST ENGAGEMENT.

The story of how I came to sail for Europe with a class of 12 other young ladies, under the auspices of-Dr. Ebell, an American by birth and half Indian by blood, who was at the head of a young ladies' institute at Berlin, has already been told, and how Dr. Ebell died of rheumatism of the heart just before we landed, leaving the whole party stranded on a foreign shore without a director. Mrs. Church, the chaperone of the American girls, had come abroad to study painting. She, as well as my self contrived to get back part of the sum we had placed in Dr. Ebell's hands for our expenses, and with the advice of Prof. HER FIRST ENGAGEMENT. we had placed in Dr. Ebell's hands for our expenses, and with the advice of Prof. Ehrlich, of Berlin, we set off for Vienna, where I placed myself under the professional care of Mme. Marchesi. I studied under that excellent teacher for nearly three years, devoting ten months of that time to the practice of vocalises only, and taking four

practice of vocalises only, and taking four and sometimes five lessons per week. When my studies were ended I had learned 20 operas in Italian.

The first engagement offered me was by Prof. Hulsen, who arranged to have me appear in opera in Berlin. I was to receive the grade of "Kammersangerina." But to accept this offer I was compelled to study my roles anew in German. I set to work and in three weeks had entirely memorized and in three weeks had entirely memorized four operas in German. But the strain was "It would be difficult to imagine a healthier, happier life than that of these down utterly, was compelled to cancel my students. At the first glimmer of the engagement, and went to Nice, where I remained seriously ill for six months.

when I regained my health I signed an engagement to appear in Italian opera in London, under the auspices of Colonel Mapleson, at Her Majesty's Theater. My first appearance on any stage was made in "La Somnambula," an opera I have always held in especial affection, and the heroine of which has ever since been considered one of

HAUR'S BAD LUCK. That season was rendered noteworthy by the theft of the jewels of one of my fellow-singers, Mme. Minnie Hauk. She never recovered them, though Colonel Mapleson ersuaded her to appear as Carmen, wearng all her remaining ornaments, by telling her that the thieves were known, and they would be in the house to look after the rest of the trinkets, and that he would then have them arrested. But they did not come, and so never fell into the clutches of the police. In the September of that year I sang in Trieste, appearing in "La Somuambula" and in "Lucis di Lammermoor." The latter opera was given 13 times. Mr. Alexauder Thayer, then the American Consul at Trieste, gave me, at that time, a very curious and valuable document. It is a prayer set to music by Beethoven, and is, I believe, completely unknown to the world, never having been either published or sung in public. I have often desired to introduce it into some one of my operatic roles. so never fell into the clutches of the police duce it into some one of my operatic roles. Then that winter I fulfilled my first Italian engagement. It was in Florence, and I was to appear at one of the smaller theaters, receiving \$60 for each performance. But before my engagement was ended the demand for early engagement was enter the manager trans-ferred his company and myself to the large opera house, the Pagliano, where I sang for 15 nights at a salary of \$200 per night, a very large amount for a debutante to re-ceive in Italy. I next went to Leghorn, where I had the great pleasure of singing for the first time before an audience of my own country people, for there were three American ships then stationed in the harbor, the Trenton, the Lancaster and the Wyoming, and their officers manifested a great

deal of kindly interest in my career. A BRILLIANT SEASON. I think that the later events of my career are familiar to the lovers of music in the United States, I refer to my engagement at the Opera Comique in Paris, where I made my first appearance in the "Pearl of Brazil," by Felicien David, the Romance of the Mysoli, from that opera remaining one of my greatest successes in concert singing; to my performances at the Italian Opera in the same city, where I sang Lucia di Lammer-moor 14 times, with the famous Spanish tenor, Gayarre, as the Edgardo; and to my two tours in the United States, one in opera

and the other in concert.

I sang in Lisbon at the Royal Opera House during the winter of 1887-8 with very great success. But I think that the season that has just closed has been the most brilliant of my whole career. It began last September with a series of representations in the principal Italian cities, after which I fulfilled an engagement at the Royal Opera House at Madrid. I met there with marked my appearance in "Lakme." She after-ward invited me to sing for her at a private ward invited me to sing for her at a private soiree at the palace, and gave me a very beautiful bracelet set with diamonds and pearls. I was greatly struck with and interested in all that I heard concerning Queen Christina during my stay in Spain. Queen Christina during my stav in Spain.
Not only did she charm me by the gracious fascination of her manners and her conversation, but I was told much respecting the good she had done and is still doing throughout the kingdom. She is a high-minded, irtellectual lady of spotless character and rigidly irreproachable manners, and the influence of her example on the court society can hardly be overestimated; wherever she goes she wins all hearts among the subjects of her little son.

IMPRESSIONABLE SPANIARDS. The Royal Opera House of Madrid, the Teatro Reale, holds an exceptional place among the theaters of Europe. It is the wealthiest of them all, and finstead of receiving a subsidy from the Government it pays annually a handsome premium. The

very first artists of the day appear upon its boards, Masini and Gayarre, for instance, singing there for weeks at a time.

I was rather surprised with the success I met with there in "La Somnambula," the sweet, simple melodies and pathetic stery of that opera being often voted old-fashioned in other countries. But the Spaniards, who attended a bull fight in the afteraoon, would no to the opera in the evening to hear "La go to the opera in the evening to hear "La Semnambula" and would listen to the regital Semnambula" and would listen to the regital of Amina's woes with tears streaming down their cheeks. One evening the celebrated bull fighter Mazzentini came behind the scenes during a representation and offered to me the compliment of a special bull fight to be gotten up in my honor. But I declined with thanks. I have always been too

fond of animals to think for a moment of accepting an invitation to witness such cruel sport. During my last engagement in Rome I was, with my husband, accorded the favor of a private audience of the Pope. His Holiness received me most graciously and spoke with infinite kindness of the dramatic profession. I shall never forget that impressive interview.

I received a singular anonymous letter some weeks ago while at Venice, warning me not to go to Spezia, where an engagement for me was then pending, as the Opera House there was to be blown up with dynamite on the evening of one of my rep-resentations. I laughed at the letter, threw it aside, and took no heed of it, especially as the negotiations with the manager a Spexia came to naught, and I accepted Barcelona engagement instead. But a gang of men, provided with dynamite bombs, were discovered and arrested in the Spezia Opera House a few weeks later, and confessed that their intention had been to blow up the building while a performance was going on. The warning letter that I had received has since been published in fac-simile in several of the Italian papers. NEVADA'S REGIME.

I have been asked to give some details re-specting the regime that I follow on the day specting the regime that I follow on the day preceding an evening's performance. In the first place, and I consider this point essential, I never talk. Anything that I have to say must be uttered in a whisper, and I speak as little as possible. I rise at 7:30 and take my bath. Breakfast, consisting of tea, bread and sirloin steak, is served at 8:30. Then I go to mass, and afterward drive for two hours and walk for one hour more pulsas the weather is stormy. fresh air ore, unless the weather is stormy, fresh air

more, unless the weather is stormy, fresh air and exercise being very essential for me. I dine at 3, taking strong, clear broth, another sirloin steak, rice, baked potatoes and roast chicken, but no salad, concluding with stewed prunes or baked apples and cream. I take one glass of good claret during the repast. Afterdinner I go to bed for two hours and try if possible to go to sleep. I dress at home, and usually arrive at the theater just five minutes before the curtain rises. After the performance I take a supper composed of soup and beef and a single glass of beer. I am very careful to avoid overheating either in my rooms or my dress. I never wear flannel underwear, and rely greatly for my health and strength, not only on nourishing food, but on constant rely greatly for my health and strength, not only on nourishing food, but on constant exercise in the open air. Some Italian professors of singing insist upon their pupils remaining in bed during the entire day preceding an appearance in public. But it would be impossible for me to follow such a regime; I should break down under it in a

ADVICE TO ASPIRANTS. To my young countrywomen who contem plate embracing the career of a professional singer, I can only repeat what has often been said before: they must study hard and patiently for at least three years. Also they must, during that period, live well, as abundant and generous nourishment is necessary to sustain the strength of a student as well as that of a prima donna. Above all they should have some funds at hand for their support while awaiting engagements. A lucrative engagement does not often await the young singer as soon as she has graduated. Then, too, there are the possibilities of illness to be considered. Twice in my career have I been compelled to remit my efforts on account of sickness; once when lay ill for six months at Nice, and the other when my first appearance at the Opera Comique in Paris was put off for weeks, owing to an obstinate attack of bronchitis from which I was suffering. So it is as well to have some reserve fund to fall back upon in case of contingencies. And above all, the advice of Dr. Johnson to Miss Burney, the author of "Evelina," should be remembered and followed, "be a good girl, my dear."

EMMA NEVADA.

STRANGE COMPANIONS.

& Hawk That Took Charge of an Orphas Kitten.

The first public exhibition of a "Happy Family" in England was given about 50 years ago, when they were shown a monkey, a cat, several rats, and three or four pigeons in one cage. The monkey was on excellent terms with the cat, so long as puss would allow him to warm himself by cuddling her. Otherwise he would show his vexation by slyly giving her tail a nip with his teeth. The birds perched on the cat's back and pecked at her fur, and the rats were as friendly with their natural enemy as if she were one of their own sort.

A lady, walking on the Isle of Wight, observed a little kitten curled up on a mossy bank, taking a mid-day nap. As she stopped to stroke it, a hawk swooped down, and pouncing upon the kitten, hid it from sight.

The lady, fearing for the life of the kit ten, tried to rescue it, but the hawk firmly faced her, stood at bay, and refused to move. She hastened to a fisherman's cottage and told the inmates of the impending tragedy. "It's always so," said they, laughing,

"that hawk always comes down if any one goes near the kitten. He has taken to it, and stays near at hand to watch whenever it goes to aleep."
The lady, greatly interested, made further

inquiries, and learned that the kitten's mother died, after which the nurshing was missed for several days. One day the hawk was seen about the cottage picking up scraps of meat and carrying them to the roof of the cottage.

The fisherman climbed up and found the

lost kitten nestled in a hole in the thatch, and thriving under the care of its strange foster-father. It was brought down and re-stored to the cottage. But the hawk would not resign his charge, and was always at hand to rescue the kitten from the caresses of strangers.

AN INTERESTING SUGGESTION.

How a Balloon Could be Made Serviceable in Exploring Central Africa.

From the New York Sun.1 House at Madrid. I met there with marked success, and was warmly received, both protessionally and socially. As I pen these lines I am preparing for another short tour in Spain, having been engaged to appear in Italian opera at Seville and Malaga.

The first time that the Queen Regent Christina has visited the theater since the death of her husband was on the occasion of the company and savage tribes, yet unable to make his way into the interior, but would An aeronaut now in this city makes as it would not be serviceable? Look at Stanley struggling for years amid forests, swamps, and savage tribes, ret unable to make his way into the interior, but would it not be possible for a skillful aeronaut to take him in a balloon from the eastern coast of Africa, proceed in the direction of Ujiji, and from there toward the sources of the Nile, surveying the country as they went along? They would sween agrees the along? They would sweep across the continent at the rate of 400 or 500 miles a day, so that but a short time would be needed for the long journey, and they would meet with no obstruction from swamps, forests, or

savages. "The balloon would easily carry all the "The balloon would easily carry all the provisions and water required by the party during the trip, and the aeronauts might travel only during the day, descending for rest at night. Years ago Prof. Wise repeatedly made voyages of 1,000 miles in his balloon, and competent skyffyers might now be found to selve the A rican problem

EVERYDAY SCIENCE. Something About the Evolution of

the Pigs in Clover Puzzle.

NATURAL GAS SUPPLY FAILING.

Many Recent Improvements in Electric Appliances.

SCIENTIFIC AND INDUSTRIAL NOTES

PREPARED FOR THE DISPARCE. Readers of THE DISPATCH who desire information on subjects relating to industrial development and progress in mechanical, civil and electrical engineering and the sciences can have their queries answered through this column.

The Inventive Age gives an interesti account of different toys devised by C. M. Crandall, the lucky inventor of the "Pigs in Clover," in the course of which Mr. Crandall is quoted as saying: "In my model room, which is my 'sanctum sanctorum,' I have kept for the last five years on my work bench constantly conspicuous to my view, a large marble as a reminder that at some time it must be worked into a toy. Some time ago I conceived the circular table and fences. But my idea at that time was a large table about two feet in diameter to be used as a parlor game and to be furnished with a pedestal and base. The table was to be attached to the pedestal by a ball and socket joint, which would enable the operafor to tilt the table at will by the use of both hands. For greater convenience as a model the size was reduced, my time being too much occupied to allow me to resume i before; and in my experiments with this model I eaught the idea of 'Pigs in Clover' and speedily reduced it to a practical toy. The first order for the toy was from a New York house for 100 gross, 25 to be sent on for the spring trade and the balance to be kept for the holiday trade, little thinking what a cyclone was hovering around the meek little pigs. Soon four factories were turning out 300 gross per day, and yet the demand in New York alone could not be satisfied, and now the toy is making the round of the civilized world."

Horses in Street Car Traffic. It is estimated that the number of horses and mules employed for street car service in Natural Gas Resources. this country and Canada is in round num-The Hon. Andrew Carnegie, in a recent bers 115,000, 1 being the smallest number address before the Franklin Institute, takes owned by any one company, 7,684 the largest, and 165 the average. The general average of feed per animal is 27% pounds, and the average for Kentucky is 45 pounds. The daily consumption of food is approximately 1,600 tons, or 584,000 tons per annum, and the cost of feed per animal varies from 17 to 50 anything but a sanguine view of the question of the continuance of the supply of natural gas. He states that the Murrysville district of Pennsylvania, which was once the most important, shows a greatly reduced pressure at the wells. Where once from 17 to 50 cents per day, according to lo cality and season of the year. the gas rushed forth with 450 pounds pressure per square inch, only 200 pounds is Inflammability of Liniment. now found. The principal field, the Grapeville, is being rapidly drained. Measures are being adopted to limit the consumption, and one of these is to charge for the gas by It has wisely been suggested that as lini ment is composed largely of naphtha, and those who use it—chiefly for rheumatic meter, by which a saying of nearly one-half will be effected. It is also probable that the

cross-fertilization is necessary.

dampness, friction or moist printing paper.

As it dissolves pyroxiline, it cannot be used

for collodion plates; but it is perfectly ap-

plicable to gelatine negatives. No heating

is required, the preparation is merely flowed over the surface and dried in an ordinary

temperature. The result is a protective film of extreme hardness, which perfectly resists the action of all moisture. A negative thus varnished, after being thomoughly dried,

may be immersed in hot water 1200 F., and

Protection of Trees From Borers.

rotection of trees from borers, the use of a

ored with cheap mineral paint and lamp

rope passes weighted at each end. At the end with the lighter weight the rope has a

end with the lighter weight the rope has a knot in it, which acts as an excellent compensator, as should the heavier weight tend to fall this knot is pressed into the groove, increasing the friction, and vice versa. For flat pulleys a piece of belting with a lace running through it a few times at the point occupied by the knot in the case of the rope, way he used.

Hypnotizing by the Phonograph.

has successfully hypnotized several sub-

jects by means of the phonograph. All the commands given were as readily obeyed as those conveyed in the ordinary manner. Dr. Pinel's deduction from these experiments is that the theory of a magnetic current passing from the operator to the subject is entirely erroneous, and that the real cause of the phenomena of hypnotism is nervous derangement on the part of those subject to them.

New Detective Camera. The latest design for a detective camera is by a well-known amateur photographer. He proposes to construct it with two shut-

It is stated that Dr. Pinel, of Paris,

by means of the phonograph

pains—are apt to crouch near the fire while the application is being made, a warning printed on the label of the bottle, explain-ing the volatility and exceeding inflamma-bility of the contents might prevent the re-ourrence of painful and even fatal accidents. will be effected. It is also probable that the principal manufacturing companies will soon resort to the use of dross or slack under boilers instead of natural gas, which will still further decrease its consumption. Natural gas is likely to become more and more valuable, and its use will probably be restricted to more important purposes than that of making steam, in which case the supply will be sufficient for many years to come. Under any conditions, it is unlikely that the district will ever revert to the use Adaptability of the Electric Motor. Among the points of interest noted connection with the huge industrial parade in New York on May 1 may be noted the that the district will ever revert to the use float of a well-known firm of confectioners, of coal as a fuel for manufacturing pur or coal as a fuel for manuacturing pur-poses; a substitute, made from slack at the various mines, and conveyed to consumers through the pipes of the present natural gas companies, would no doubt be provided. and thrown to the crowd. The machinery was driven by an electric motor, which was supplied with current by storage batteries placed in the body of the truck. Cross-Pertilization of Flowers.

An old, but infallible method of testing In a course of experiments undertaken by the freshness of eggs is now advocated the Massachusetts Agricultural College, pollen was taken from a carnation flower of When a perfectly fresh egg is placed to the ear and violently shaken no sound is heard; but if the egg is stale it gives forth a knocka magenta color, and after being kept in a dry place for five days was applied to the stigmatic surfaces of a yellow flower. From but if the egg is said to the contents were not enough to fill the shell. The stater the egg 27 seeds resulting from this crossing 19 plants were grown, all but one of which produced double flowers. Five of them bore yellow flowers of various lighter and deeper the sound. shades, eight bore magenta flowers, four bore scarlet flowers and two white-striped flowers. On another occasion the pollen used was taken from a flower of the same

of the past. Electric lights will also be used in the hoisting works, blacksmith shops and all shops and buildings about the mine. The mining superintendent says they are safer, better and cheaper than variety, a yellow-striped one, and the seed-lings all showed yellow-striped flowers, al-though they varied somewhat in shade. This points to the conclusion that for the production of varieties distinct in color, Electric Tunning. The Photographic Times makes mention Leather is now tanned by electricity. The of a new medium for the protection of glass process consists in subjecting the hides in negatives and positives from injury by contact with ordinary tanning materials

of electricity on a revolving drum. The saving in time is very great—two to four days instead of three to nine months—while

(without acids) to the action of a current

wiped dry with a rag without injury. The varnish is excellent for transferred bromide prints, but it is mainly intended for "ivory" film negatives, for which purpose it is admirable. It will not crack or soften, dust, water and foreign matter will not adhere to it, and retouching is facilitated by its The Paris firemen are now provided with cylinders of oxygen under pressure, to be used for the prompt relief of persons suffo-cated during fire.

The Rural New-Yorker advocates for the Electrical Development. America has 10,000 electric motors in use mixture of white lead and raw linseed col-England only 200. black to imitate closely the color of the bark. The young trees should be painted

VAGARIES OF PENMANSHIP.

How Circumstances Combine to Change Man's Handwriting.

in the spring just as soon as transplanted, and every year thereafter in early May. The paint is applied from a little below the soil to a foot above. In four or five years the bark will peel off after the paint has been applied. When this occurs, if before A prominent business man in this city, called upon to sign 100 letters every day, July, it is better to remove what bark still will tell you that his signature never varies clings and at once give another coating of othe paint. This plan has stood the test of 20 years. writing master; interrupted by some person Simple Compensating Bruke Dynamo-Meter. who irritates him, he will write for an hour with the heavy-poking stick movement of a newspaper man; interrupted again by a man who brings him good news, and his pen will slip over the paper with a light, un-A compensation brake dynamo-meter o emarkable simplicity has been employed in England by Profs. Ayrton and Perry in testing small electric motors. It consists simply of a grooved pulley, over which a shaded line.

Sometimes the whole signature is signed without raising the pen, again the same is written with great care at each initial. Taking the 100 letters, no man could swear that they were signed by the same man.

First Carpet-beater (the Wanderer)-This (on the return to work, after lunch)here loss o' sleep is breakin' me all up! let's finish up this last one in a hurry! Are you ready?
Second Carpetbenter-Yep!
First Carpet-benter

ters; one, having a range from 1.100th of a second upward, would be placed between the lenses, and the other, with a range from 1.100th of a second downward, would be placed in front of the lens and act as a nood. He recommends a plate-holder for the new films capable of carrying two or three dozen. SUNDAY THOUGHTS

Electric Theodolite.

An electric theodelite, which indicates

with mathematical precision the position of

New Uses of Photography.

question of elasticity, careful photograp

Destruction of Rats.

The Smithsonian Institution, Washing

MORALS AND MANNERS

BY A CLERGYMAN.

[WRITTEN FOR THE DISPATCH.] EARNESTNESS is the right hand and conviction is the left hand of the successful laborer for Christ. Nothing can be done in religion without these two. Indeed, this an enemy's ship, whether at anchor or in movement, has been set up at Maddalena, Caprera. The battery which defends the island is situated in a valley separated from the sea by a high hill. On this is placed electric machinery communicating with the electric machinery communicating with the electric machinery communicating with the battery. By an ingenious arrangement the point at which the aim should be directed fairs on a tight-rope until children drop their gingerbread for joy than play at art as boys play at swords."
When we deal with eternal verities—the

is indicated to the gunners, who do not see the enemy, but aim high, the balls passing over the bill. The enemy, having no means of ascertaining the position of the hidden battery, cannot return the fire. The inventor of this device is one of the heads of being of God, the soul of man, the swift coming judgment day, the everlasting ver-dict—shall we not touch these high themes as the priests in the Jewish temple handled the engineers' department of the Italian the sacred utensils of the altar and the ark—with reverent fingers? It is an awful thing Prof. John Trowbridge, in the May Scribner's, suggests that, by way of throw-ing additional light on the much-vexed to stand, like the Hebrew prophet, between the living and the dead—as every Christian does, whether clerical or lay. To-day let us be fired by conviction and moved by earnestness in all our work. be made of steel and timber at the point of

Are we not reminded by the recent Washington Centennial celebration of those words of the Bunker Hill hero? who said to the rupture under a breaking load. The suggestion is a valuable one, for when, by the aid of photography, a medical man can detect an incipient cruption on the skin that is not visible to the naked eye, it is but fair embattled farmers, as the Red Coats marched up the slope: "Boys, don't fire until you see the white of their eyes!" No wasting of to assume that by photography much could be learned concerning the changes going on in the physical condition of metals subjected to strains exceeding their elastic limit powder to-day. Make every shot tell. A lofty purpose will lead every Christian to cry this morning, with Wellington at Waterloo: "Up, guards, and at them?"

A Spurious Peace. PEACE in a family, peace in a church, peace in a community, is blessed. But ton, D. C., has a special quarter for live there is a spurious peace—the peace of sloth, animals, which for a long time has been inof apathy. Such peace is death. Mr. Spurfested with rats. Captain Weedin, who has geon compares it to rust, and agitators, both charge of the animals, has made a valuable discovery, by means of which he is rapidly getting rid of the pest. He noticed that the rats persistently raided the stock of sunflower seeds, which were used for food for certain of the birds, and acting on the hint he baited his rat-traps with the seeds. The bait acted like a charm, and next morning every trap held from 10 to 15 rats. in church and State, he says, "help to scour the vessels and keep them from becoming rusty." A good, honest controversy is not a bad thing occasionally. It acts in morals as a thunder storm does in nature, drives out missma and puts tonic in the atmos-

phere.

We would not advise a fight—although there are some hen-pecked husbands in the family, and some sleepy members in the church, and some abuses in the community, which it should seem that nothing else will cure. Anyhow, we are not to love peace more than truth, more than justice, more than progress. han progress.

Don't invite war-but don't run from it.

A Passage From Talmage. attions and prove them. Some passages are dull and some are sprightly. Then come inferences and application. At 70 we say, "Fifthly and lastly." The doxology is sung. The benediction is pronounced. The book is closed. It is getting cold. Frost on the window-pane. Audience gone. Shut up the church. Sexton goes home with the key on his shoulder.

though seated on a rainbow." For years he persecuted her. Finally, thinking it wisest to get her on his side, he sent his brother to invite her to come to Paris and advise him as to a constitutional government. Her queenly reply was:

"Tell the Emperor that for 12 years he has done without either me or the constitution, and that I believe he has as little regard for the one as he has for the other.

THERE is a popular chart of the religious faiths of mankind, which had its origin in a deeply earnest soul in Chicago. By means Electricity in Mines.

Incandescent lights are now used in the underground workings of the Anaconda mine. Montana, where candles are a thing vividly represented to the eye; 391,000,000 of nominal Christians and 1,026,000,000 of practical heathen. There is no reason to doubt the facts, and they are appalling. If only true Christians had been contrasted with all not Christians, the picture would have been darker still; and it would have been yet darker in the time of Christ and of the Apostles. Then but an almost invisi-ble spot would have shone out from the blackness. But, after all, is it a true pic-ture? Does it not ignore the fact that 50 without actors) to the action of a current of electricity on a revolving drum. The saving in time is very great—two to four days instead of three to nine months—while the cost is reduced to 4 cents instead of 8.

Preservation of Wire Rope.

The life of a wire rope may be doubled by the application of graphite mixed with grease, which prevents rusting and saves the rope from abrasion when coming in contact with hard substances. The graphite finds its way into the space between the wires, and is kept there by the grease.

Apparatus for Firemen.

missionary societies with thousands of missionary societies with little fires kindled all through it and rays of light spreading everywhere. Only thus are Christ and the Gospel honored, and the statendam conscientiously endeavoired to graitly him, without avail. She substance, "minding an obstrepctous child of so of years, a few days size, "minding an obstrepctou nissionary societies with thousands of misthused with zeal and courage, most ready for self-denial and work when we see clearly the magnitude of the work to be done, and, at the same time, realize that we are under

complishing the purpose for which it was

For Boys and Girls. DEAR boys and girls, you can add very much to home happiness, especially if you have a mother who is not very strong, or a grandpa or grandma who is sged and feeble, by being thoughtful and mannerly. There is a right way to open and shut the door; a

is a right way to open and shut the door; a right way to move from one part of the room to mother; a right way to sit down, to rise, to hold a hook—a right way to do everything that is worth doing at all.

And yet we have known children to give their parents and hearts by the neglect of these little home duties. It is more easy to do these things right than to do them wrong.

One very ugly habit some young people have is that of calling alond the name of a brother or sister, or even of a lather or a mother, who may be in another room, or upstairs, or in the yard. A politic person will always go to the one whose attention is will always go to the one whose attention is required and speak in a low and modest tone of voice. The home might be made far more pleasant by observance of many of these little matters.—Our Little People.

Blessings of Hond Winds.

THE worst calamity that could befall us short-aighted creatures would be for God to let us have our own way. In the voyage of life we should choose nothing but smooth seas and fair winds and full cargoes and "quick trips" and safe harbors. God is wiser than we are, and He no more consults us than I consult my grape vines when I send a gardener to prune off the surplus

branches. When Christ directed His disciples to cross When Christ directed His disciples to cross the lake of Galilee on a certain night, He did not give them the control of the weather. He knew that a storm was coming, but He did not tell them. They found it out for themselves before they had gone very far; and Peter, who was an "old hand" on that lake, had never known a rougher night or a surgier sea. The wind is right in their teeth, and the waves hammer the bow of their fishing smack like iron sledges. With all their sturdy pulls at the oars, they make but little headway. They are learning some little headway. They are learning some lessons that night; and so are some of my readers who are just now passing through storms of trouble and enveloped by the darkness of a mysterious Providence. They are learning the blessings of head winds.—T. L.

Pretty and Pathetic. ALTHOUGH the belief in magicians and genii passes with childhood, there occurs now and then something that recalls it very vividly. Quite as wonderful, in its way, as any of the feats which Alladdin accomplished with his lamp, is a pretty and pathetic story, published in the Daily Tele-

A Passage From Taimage.

Our quaint friend De Witt Talmage is nothing if not dramatic. Here is a passage in which he likens life to a sermen. Our birth is the text. Youth the introduction. During manhood we lay down a lew propositious and prove them. Some passages are dull and some are sprightly. Then come inferences and application. At 70 we say, "Fifthly and lastly." The doxology is sung. The benediction is pronounced. The book is closed. It is getting cold. Frost on the window-pane. Audience gone. Shut up the church. Sexton goes home with the key on his shoulder.

Napoleon Awed by a Woman.

There were few human beings that Napoleon I was afraid of; but he was afraid of Madame de Stael, the brilliant litterateur, who exemplied the truth of Bulwer's line—

The pen is mightier than the sword.

Speaking of her, he said: "She carries a quiver full of arrows that would hit a man though seated on a mightow of the said was about to go but one story after another of healing and child heroism flowed from the Second throws and shrown back once more, the magic book was about to go but one story after another of healing and child heroism flowed from the Second throws hasted on a mightow of the said was alread on a mightow of the said was alread on the content of the said of London should at least, one would think, be as good a building, as well fitted for its work of Mondon:

A hospital for siek children in the east end of London should at least, one would think, be as good a building, as well fitted for its work of London should at least, one would think, be as good a building, as well fitted for its work of London should at least, one would then, of London should at least, one would think, be as good a building, as the stable at the west end. Yet, the work of London story tells was carried on in a tumble-down old wharf warchouse, such a tumble-down old wharf warchouse, such a tumble-down old wharf warchouse, such a stude down in a timber of London. Frost of the business, one would then stable at the west end. Yet, the was thrown back once more, the magic book produced, and a third thousand laid beside the others. I found my way up and I can find my way down. Good day! The miss of shabby coat and gruff voice was gone, but the Secretary had the new building an his hand.

A Remarkable Fact. THE announcement that the family of the Rev. J. G. Wood, the popular Euglish naturalist, whose books and lectures have been so much enjoyed, is left almost penniless, has led to the publication of surprising facts in regard to other popular persons. The English pension list, to which special attention has been called by the Society of

THE old truths of life and faith no more become threadbare to the soul that holds them precious, than do, to the man who loves them, the old haunts by the cream, the old walk on the hills, the old face among friends.—H. Clay Trumbull.

"I HAVE no more influence than a farthing rush light," said one English workman to another. "Well," was the reply, "a rush light the magnitude of the work to be done, and, at the same time, realize that we are under a leader who has proved His power, and proclaiming a gospel which ever hus been and still is triumphing over its focs, and

BILE POISONED BLOOD.

with bilious attacks, more especially in the spring months, after the system has been surfeited with hearty food during the winter. The action of the Liver is interfered with, causing ing Shoulders or any other symptom of bilious-an overflow of bile into the blood. The blood ness or Liver Complaint, procure a bottle of carries this bile into every part of the system, B. B. B., which will correct the clogged condiwill tell you that his signature never varies from the standard fixed by himself in the morning, and yet I know that that man will write for an hour with the enjoyment of a few doses of Burdock Blood Bitters, taken on Burdock Blood Bitters, taken burdock Bitters, taken burdock Bitters, taken b appearance of bilious symptoms, will remove them and protect the system from a probable serious attack.

ing Shoulders or any other symptom of billous-BURDOCK BLOOD BITTERS THAT ONE BOTTLE CONTAINS MORE CURATIVE PROPERTIES THAN GALLONS OF ANY OTHER MEDICINE KNOWN. A Morrible Condition.

I was in a horrible condition from dyspepsia and a combination of other complaints. In the morning when I got out of bed it seemed as if I could not stand up on account of dizzness. Hearing Burdock Blood Bitters highly recommended, I am now using the first bottle, and, although not having used quite a full bottle, the dizzness has entirely disappeared and I am much bestigs of my other complaints, I have tried many other medicines, with no relief.

Run Down in the Spring.

I am using Burdock Blood Bitters for Sick Headache and Bittousness. It is the best medicine I is
ever took. I was so run down this KLOOD I was scarcely able to stand and concluded to try B. B. Bitters first; the first bottle is not yet finished, but I can go about my work with pleasure already. I shall take an-

Mass.

I tell you for the benefit of others what Burdock Blood Bitters has done for me. I have been a sufferer for years from Liver Complaint and weak stomach. At times I was so had that I would apply to our family physician for reilef, which would be but temporary. Last fall had an unusually had spell. My mother bought a fottle of Burdock Blood Bitters, and it gave me great reitef. It helped Will Relieve Clogged Liver Blood.

Bile Poisoned

I had been troubled with Liver Complaint, Indigestion and Palpitation of the Heart for five or six years and could get nothing to do me any good until I tried H. R. R. I used is lictures and now I am a sound man. I feel better than I ever did in my life, My digestion became all right and I have no more trouble with my heart. I feel very grateful toward R. R. R. and feel like recommending it every.

MRS. MARY CHAUNCEY, 525 E. Ransom st., Kalamazoo, Mich.

Co., Obio.

PRING.

It wo troubled me. I sed using it in my family this apring. For unded to try Burdock bottle or two of your Bitters and they have dictine cured me.

January of the cured me. I see a bottle or two of your Bitters and they have dictine cured me.

Last spring my health manner we had no appetite and my liver tree used several medicines, but obtain until I was finally persuaded to I Blood Bitters. This medicine cure